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Best Practices for Community-Engaged Participatory Research with Pacific Islander Communities in the US and USAPI: Protocol for a Scoping Review

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2017-019653
Article Type:	Protocol
Date Submitted by the Author:	21-Sep-2017
Complete List of Authors:	McElfish, Pearl; UAMS, Northwest Ayers, Britni ; UAMS, Northwest Purvis, Rachel; UAMS, Northwest Long, Christopher; UAMS, Northwest Sinclair, Ka'imi; Washington State University , College of Nursing Esquivel, Monica; University of Hawaii Manoa, Department of Human Nutrition Food and Animal Science Steelman, Susan; Univeristy of Arkansas for Medical Sciences Library, Division of Academic Affairs
Keywords:	Community-based participatory research, Pacific Islanders, scoping review, community-engaged

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**Best Practices for Community-Engaged Participatory Research with Pacific Islander
Communities in the US and USAPI: Protocol for a Scoping Review**

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18 **Manuscript Word Count:** 1855
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Abstract

Introduction: Community-based participatory research is a partnership approach to research that seeks to equally involve community members, organizational representatives, and academic partners throughout the research process in a co-equal and mutually beneficial partnership. To date, no published article has synthesized the best practices for Community-based participatory research practices with Pacific Islanders.

Methods and Analysis: The reviewers will examine studies’ titles, abstracts, and full-text, comparing eligibility to address discrepancies. For each eligible study, data extraction will be executed by two reviewers and one confirmation coder, comparing extracted data to address any discrepancies. Eligible data will be synthesized and reported in a narrative review assessing coverage and gaps in existing literature related to Community-based participatory research with Pacific Islanders.

Ethics and Dissemination: The purpose of this review is to identify best practices used when conducting Community-based participatory research with Pacific Islanders; it will also extrapolate where the gaps are in the existing literature. This will be the first scoping review on Community-based participatory research with Pacific Islanders. To facilitate dissemination, the results of this scoping review will be submitted for publication to a peer-reviewed journal, presented at conferences, and shared with Community-based participatory research stakeholders.

Keywords: Community-based participatory research, Pacific Islanders, scoping review, community-engaged

Strengths and Limitations

- This is the first scoping review to address the literature on Community-based participatory research with Pacific Islanders.
- The review will provide a synthesis of existing studies, it will be useful to Community-based participatory partnerships with Pacific Islanders, and other collectivist cultures.
- This scoping review is focused on assessment of the coverage and gaps in the existing literature, so quality assessment of individual studies will not be a primary emphasis.

Best Practices for Community-Engaged Participatory Research with Pacific Islander Communities in the US and USAPI: Protocol for a Scoping Review

INTRODUCTION

Community-based participatory research (CBPR) is an approach to research that seeks to equally involve community members, organizational representatives, and academic partners throughout the research process in a co-equal and mutually beneficial partnership.¹⁻⁵ CBPR is not a specific research method but rather a realignment to research that seeks to foster an environment of shared power. This approach is in contrast to traditional research ontological positions wherein the academics are the experts conducting research with little input from the community being studied. The essential components of CBPR include: equitably including a specific community in all phases of research; building capacity within a community to drive the focus of the research that is of interest to community stakeholders; and implementing research that results in tangible action and directly improves the community's well-being.^{5,6} CBPR has demonstrated efficacy in building alliances to conduct research with disenfranchised communities.¹ Engaged research is referred to by other terms including action research, CBPR, and patient-centered research; the term CBPR will be used throughout this protocol.

BACKGROUND

Pacific Islanders are the second fastest growing population in the US, and grew 40% between 2000 and 2010.⁷⁻⁹ In addition to the continental US and Hawaii, many Pacific Islanders reside in the US Affiliated Pacific Islands (USAPI). The USAPI includes three US territories: American Samoa, the Commonwealth of the Northern Mariana Islands and Guam, and three independent countries in free association with the US: the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. Pacific Islanders are underrepresented in health research, and much of the available research aggregates data from

Pacific Islanders and Asian Americans, obscuring the disparities between and within these two heterogeneous populations.¹⁰⁻¹⁴ While data aggregation has limited the number of available data, existing research reveals profound health disparities among Pacific Islanders compared to the general US population.¹⁵⁻³⁹ These disparities include higher rates of diabetes, cardiovascular disease, obesity, and cancer.⁴⁰⁻⁴⁴ While national data about life expectancy is not available for Pacific Islanders due to aggregation,⁴⁵⁻⁴⁷ individual state and US territory data document life expectancy for Pacific Islanders as 68.3 years,⁴⁸ compared to the life expectancies of 78 years for non-Hispanic Whites and 79 years for the total US population.⁴⁷

Pacific Islanders' health disparities can be attributed to many factors, including a history that has been marked by trauma, exploitation, and exclusion. Between 1946 and 1958, the US military detonated 67 fission and thermonuclear devices in the USAPI region, which were equivalent in payload to 7,200 Hiroshima-sized bombs.⁴⁹⁻⁵² These nuclear tests caused acute radiation exposure and subsequent illness, and contaminated the soil, ocean, and fresh water resources of the USAPI region of the Marshall Islands resulting in food insecurity and serious long-term health effects.^{50,52-59} After nuclear testing, the US began Project 4.1 in which Islanders who were exposed to nuclear fallout were interned in a camp in order to study the effects of radiation on humans.⁶⁰⁻⁶³ The research was conducted without the informed consent of the Pacific Islanders and without translation of the study information into the native language.⁵² This historical trauma has contributed to deep apprehension and distrust of western medicine and research.⁶⁴⁻⁶⁹ Historical trauma perpetuates ethical challenges that must be addressed in order to conduct research with Pacific Islanders.^{70,71}

One way to address the effects of historical trauma on Pacific Islander communities' perceptions of research is through CBPR.^{70,71} CBPR shares power and builds trust between

academic researchers and the community.^{72,73} To date, no published article has synthesized the best practices for CBPR practices with Pacific Islanders. This leaves an important gap in the literature as researchers seek to address the profound health disparities in the rapidly growing Pacific Islander population in the US.

OBJECTIVES

The aim of this scoping review is to examine the best practices for conducting CBPR with Pacific Islanders. The review will respond to the following question: What are the best practices for conducting community engaged-research with Pacific Islanders in the US and USAPI?

METHODS

The scoping review protocol was designed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P) statement.^{74,75}

Eligibility criteria

Studies will be selected according to the following criteria. (Table 1)

Table 1.

Participant population:	CBPR studies conducted with Pacific Islanders in the US or USAPI of any sex or age. Studies that aggregate Pacific Islander and Asian American data will be excluded. Study conducted with Pacific Islanders outside the US or USAPI will not be included.
Study type:	All types of studies focused on mental and/or physical health.
Outcomes:	CBPR challenges and best practices.
Context:	Articles that self-identify as using a CBPR approach (or other engaged research term such as action research or patient-centered research).
Study methods:	All types of studies (e.g., randomized controlled trials, mixed methods, cross sectional, descriptive, qualitative, case studies, etc.).

Studies will be limited to research conducted with participants residing in the US and USAPI. Studies published between 2000 and 2017 in peer-reviewed journals will be included in the review. Only those studies that focus solely on Pacific Islanders will be included. Pacific Islander subgroups include (but are not limited to): Marshallese, Samoan, Tongan, Chuukese, Native Hawaiian, Samoan, Chamorro, and Maori. Studies that include Asian Americans aggregated with Pacific Islanders will not be included. For the purposes of establishing study eligibility, *CBPR* will be defined as an approach to research that seeks to equally involve community stakeholders and academic partners in the research process in a mutually beneficial partnership.⁶ Studies that self-identify as CBPR or a related term will be included.

Information sources

The following biomedical databases will be searched for articles meeting the eligibility criteria and focused on English language items with 2000-2017 publication dates. These databases include: MEDLINE (OVID), MEDLINE In Process & Daily Updates (OVID), Cumulative Index to Nursing and Allied Health Literature-CINAHL Complete (EBSCO), Science Citation Index, and Social Sciences Citation Index (both via Web of Science). The search of All EBM Reviews (OVID) will include: ACP Journal Club, Cochrane Database of Scoping Reviews, Databases of Abstracts of Reviews of Effects, Cochrane Central Register of Controlled Trials, Cochrane Methodology Register, Health Technology Assessment, and the NHS Economic Evaluation Database. The World Health Organization’s Global Health Library will also be searched for international items. Three researchers will review references for inclusion.

Search strategy

The search strategy will be developed by medical librarian co-author SS, in consultation with co-authors PM, BA, RP, and CL. Medical Subject Headings (MeSH) will be used and explored where appropriate to include specific headings under the MeSH terms. To obtain a comprehensive set of results, MeSH terminology will be combined with advanced textword searching techniques including truncation and adjacency searching. MeSH headings chosen to make up the base strategy include: exp Oceanic Ancestry Group/ AND Community-Based Participatory Research/. Controlled vocabulary headings will be combined with extensive strings with synonymous terms for each main concept. Pacific Islander terms include: ("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or maui).mp. or ("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).mp. Similar synonymous terminology searching will be combined multiple ways to reach the CBPR concept. Controlled vocabulary headings, search strings and the overall strategy will be adapted as needed for other vendor platforms specific to the database used. These adapted strategies and terms may be requested from the corresponding author (PM). The search terms and strategy to be used from MEDLINE (via OVID) are presented in Appendix 1.

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Data management

Search results will be exported, stored, and shared among co-authors using RefWorks (version 2.0),²¹ an Internet-based reference management service. Duplicate records will be removed from search results by using RefWorks’ duplicate-check function with manual oversight prior to duplicate removal. De-duplicated records will be exported from RefWorks into a Microsoft Excel 2013 (version 15.0) spreadsheet to facilitate the study selection process.²²

Study selection process

The title and abstract of manuscripts will be reviewed to determine whether the study meets all the eligibility criteria. If the title and abstract of any manuscript do not provide enough information to confirm eligibility, the full article will be reviewed by two researchers to determine if it meets the inclusion criteria. If it is still unclear if the manuscript is eligible, a third reviewer will review the manuscript and a final decision will be made. In the event that multiple publications of a single eligible study are identified, both publications will be included. However, when tabulating quantitative results care will be taken to avoid double-counting single studies.

Data extraction process

Data extraction from each eligible study will be performed by two researchers independently. Then, they will compare the results of the extraction process. Discrepancies in extracted data will be discussed and resolved between the researchers; a third reviewer will be consulted if necessary. If data extraction for an eligible study cannot be completed due to inadequate description of the study in an article’s full text, researchers will contact the publication’s corresponding author via email (up to three attempts) to acquire the missing information. If there are multiple publications of a single eligible study, data will be extracted

from the multiple publications. In these cases, extracted data will be evaluated across publications for any inconsistencies. If inconsistencies are identified, researchers will attempt to resolve inconsistencies through discussion or by contacting the publications' corresponding author via email (up to three attempts). Before data extraction begins, researchers will pilot the extraction spreadsheet on a small sample of eligible studies and adjust the extraction spreadsheet or extraction procedures as necessary.

Data items

The following data will be extracted from each eligible article. (Table 2)

Table 2.

Participant population	<ul style="list-style-type: none"> • Race/ethnicity • Subgroup of Pacific Islander • Geographic location • Sex • Age group
Study design	<ul style="list-style-type: none"> • Randomized controlled trial • Case study • Etc.
Study method(s)	<ul style="list-style-type: none"> • Qualitative • Quantitative • Mixed methods • Etc.
Study setting	<ul style="list-style-type: none"> • Churches • Clinical setting • School systems • Community setting • Etc.
Best Practices	<ul style="list-style-type: none"> • Best practices related to CBPR design, implementation setting, individuals involved, and implementation process.

Publication details	<ul style="list-style-type: none">• Authors• Article title• Journal title• Year of publication• Volume number• Issue number• Page numbers• Funding source• Was a community author identified
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Because this scoping review’s focus is to assess the coverage and gaps in the literature about CBPR best practices with Pacific Islanders, quality assessment of individual eligible studies will not be a primary focus of the data extraction process.

Data synthesis

Data synthesis will include producing quantitative summaries of extracted data that include frequencies and percentages for many of the extracted data fields. For the Best Practices Field, the researchers, trained in qualitative methods, will begin by coding each segment of data using an inductive coding process to generate a list of emerging best practices. Then researchers will organize emergent codes into a code book that will be used to code each data segment. This process will help organize the data for focused thematic coding and allow the researchers to create salient summaries of best practices.^{76,77} These summaries will be utilized to present the convergent and divergent themes within the studies. Additionally, these summaries will allow us to identify gaps in the existing literature.

Discussion/Ethics & Dissemination

The purpose of this scoping review is to identify best practices used when conducting CBPR with Pacific Islanders; it will also extrapolate where the gaps are in the existing literature. This will be the first scoping review on CBPR with Pacific Islanders. For this reason, it will be useful to CBPR partnerships with Pacific Islanders, and other collectivist cultures. To facilitate

dissemination, the results of this scoping review will be submitted for publication to a peer-reviewed journal, presented at conferences, and shared with CBPR stakeholders.

Authors' Contributions

PM, BA, RP, CL, KS, and ME designed the protocol, and SS developed the search strategy in consultation with PM, BA, and RP. PM, BA, and RP drafted the protocol, and SS, CL, and KS revised the protocol. All authors approved the current version of the protocol.

Funding Statement

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Competing Interests

The authors have no competing interests to declare.

References

1. Vaughn LM, Jacquez F, Lindquist-Grantz R, Parsons A, Melink K. Immigrants as Research Partners: A Review of Immigrants in Community-Based Participatory Research (CBPR). *J Immigr Minor Health*. 2016.

2. Townsend C, Dillard A, Hosoda K, et al. Community-based participatory research integrates behavioral and biological research to achieve health equity for Native Hawaiians. In. Vol 13. *International Journal of Environmental Research and Public Health* 2015:1-10.

3. National Institutes of Health. Community-Based Participatory Research Program (CBPR). 2017; <https://www.nimhd.nih.gov/programs/extramural/community-based-participatory.html>.

4. Panapasa S, Jackson J, Caldwell C, et al. Community-Based Participatory Research Approach to Evidence-Based Research: Lessons From the Pacific Islander American Health Study. *Prog Community Health Partnersh*. 2012;6(1):53-58.

5. Israel BA, Coombe CM, Cheezum RR, et al. Community-based participatory research: a capacity-building approach for policy advocacy aimed at eliminating health disparities. *Am J Public Health*. 2010;100(11):2094-2102.

6. Israel BA, Schulz AJ, Parker EA, Becker AB. Review of community-based research: assessing partnership approaches to improve public health. *Annu Rev Public Health*. 1998;19:173-202.

7. Grieco E. The Native Hawaiian and other Pacific Islander population: Census 2000 brief. 2001. 2001; <http://www.census.gov/prod/2001pubs/c2kbr01-14.pdf>. Accessed 09/17/2008.

8. Bureau USC. *2010 Census Shows More than Half of Native Hawaiians and Other Pacific Islanders Report Multiple Races*. 2010.

9. Hixson L, Hepler B, Kim M. The Native Hawaiian and Other Pacific Islander Population: 2010. 2012; <http://www.census.gov/prod/cen2010/briefs/c2010br-12.pdf>.

10. Working Group of Applied Research Center and National Council of Asian Pacific Americans. Best Practices: Researching Asian Americans, Native Hawaiians and Pacific Islanders. <http://ncapaonline.org/BestPracticesAANHPI.pdf>. Accessed September 12, 2013.

11. Ro M, Lee AK. Out of the Shadows: Asian Americans, Native Hawaiians, and Pacific Islanders. *Am J Public Health*. 2010;100(5):776-778.

12. Srinivasan S GT. Toward improved health: Disaggregating Asian American and Native Hawaiian Pacific Islander data. *American Journal of Public Health*. 2000;90:1731-1734.

13. Nguyen A, Chawla N, Noone A, Srinivasan S. Disaggregated Data and Beyond: Future Queries in Cancer Control Research. *Cancer Epidemiol Biomarkers Prev*. 2014;23(11):2266-2272.

14. Ahmad F, Weller C. *Reading Between the Data The Incomplete Story of Asian Americans, Native Hawaiians, and Pacific Islanders*. 2014.

15. Moy K, Sallis J, David K. Health Indicators of Native Hawaiian and Pacific Islanders in the United States. *Journal of Community Health*. 2010;35(1):81-82.

16. Look M, Trask-Batti M, Mau M, Kaholokula J. *Assessment and Priorities for Health & Well-being in Native Hawaiians and other Pacific Peoples*. Honolulu, HI: University of Hawaii;2013.

17. Mau M. Health and Health Care of Native Hawaiian & Other Pacific Islander Older Adults. In: Stanford School of Medicine; 2010:1-38.

18. Center for Disease Control and Prevention. CDC - NHOP - Native Hawaiian - Other - Pacific Islander - Populations - Racial - Ethnic - Minorities - Minority Health. 2015; <http://www.cdc.gov/minorityhealth/populations/REMP/nhopi.html>. Accessed May, 14, 2015.

19. Asian American's Advancing Justice. *A community of contrasts: Native Hawaiians and Pacific Islanders in the United States*. 2014.

20. Asian & Pacific Islander Health Forum. *Native Hawaiian and Pacific Islander Health Disparities*. 2010.
21. Braun K, Kim B, Ka'opua L, Mokuau N, Browne C. Native Hawaiian and Pacific Islander Elders: What Gerontologists Should Know. *Gerontologist*. 2014.
22. Evaluation IfHMa. GBD Profile: Federated States of Micronesia. 2010;
http://www.healthdata.org/sites/default/files/files/country_profiles/GBD/ihme_gbd_country_report_federated_states_of_micronesia.pdf.
23. Panapasa S, Jackson J, Caldwell C, Heeringa S, McNally J, Williams D. *Pacific Islander Health Study Report: Preliminary Findings*. 2012.
24. United Nations Population Fund. Population and Development Profiles: Pacific Island Countries. 2014;
http://countryoffice.unfpa.org/pacific/drive/web_140414_UNFPAPopulationandDevelopmentProfiles-PacificSub-RegionExtendedv1LRv2.pdf.
25. Economic Policy PaSO, Republic of the Marshall Islands, and the SPC Statistics for Development Programme,. *Republic of the Marshall Islands 2011 Census report*. Noumea, New Caledonia 2011. 978-982-00-0564-8.
26. Moy K, Sallis J, Trinidad D, Ice C, McEligot AJ. Health behaviors of native Hawaiian and Pacific Islander adults in California. *Asia Pac J Public Health*. 2012;24(6):961-969.
27. Aitaoto N, Ichiho H. Assessing the Health Care System of Services for Non-Communicable Diseases in the US-affiliated Pacific Islands: A Pacific Regional Perspective. *Hawaii J Med Public Health*. 2013;72(5 Suppl 1):106-114.
28. Palafox N. Health Consequences of the Pacific U.S. Nuclear Weapons Testing Program in the Marshall Islands: Inequity in Protection, Policy, Regulation, Presidents Cancer Panel. *Reviews of Environmental Health*. 2010;1:81-85.
29. Palafox N, Riklon S, Alik W, Hixon A. Health consequences and health systems response to the Pacific U.S. Nuclear Weapons Testing Program. *Pac Health Dialog*. 2007;14(1):170-178.
30. Palafox NY, S. The health predicament of the U.S.-associated Pacific Islands: What role for primary health care? *Asian American Pacific Islander Journal of Health*. 1997;5:49-56.
31. Pobutsky A, Krupitsky D, Yamada S. Micronesian migrant health issues in Hawaii: Part 2: An assessment of health, language and key social determinants of health. *Californian Journal of Health Promotion*. 2009;7:32-55.
32. Yamada S, Pobutsky A. Micronesian Migrant Health Issues in Hawaii: Part 1: Background, Home Island Data, and Clinical Evidence. *Californian Journal of Health Promotion*. 2009;7(2):16-31.
33. Center for Disease Control and Prevention. United States Affiliated Pacific Islands, 2011 - TB. 2011; <http://www.cdc.gov/tb/statistics/reports/2011/pdf/pacificislands.pdf>.
34. Blackwell D, Lucas H, Clarke T. Summary Health Statistics for US Adults: National Health Interview Survey, 2012. In. Vol 10(260). National Center for Health Statistics 2014.
35. Prevention CfDca. Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2011. In. *Vital and Health Statistics* 2012.
36. Schiller J, Lucas J, Ward B, JA P. *Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2010*. National Center for Health Statistics; 2012.
37. Pleis J, Ward B, Lucas J. Summary Health Statistics for US Adults: National Health Interview Survey, 2009. 2010; 10(249):http://www.cdc.gov/nchs/data/series/sr_10/sr10_249.pdf.
38. Pleis J, Ward B. Summary health statistics for U.S. adults: National health interview survey, 2008. National Center for Health Statistics. In. *Vital Health Statistics*. Vol 102009.
39. Pleis J, Lucas J. Summary Health Statistics for US Adults: National Health Interview Survey, 2007. *Vital Health Statistics* 2009; 10(240):http://www.cdc.gov/nchs/data/series/sr_10/sr10_240.pdf.

40. Tung W-C. Diabetes among Native Hawaiians and Pacific Islanders. *Home Health Care Management & Practice*. 2012;24(6):309-311.

41. Mau M, Sinclair K, Saito E, Baumhofer K, Kaholokula J. Cardiometabolic health disparities in native Hawaiians and other Pacific Islanders. *Epidemiol Rev*. 2009;31:113-129.

42. Okihiro M, Harrigan R. An overview of obesity and diabetes in the diverse populations of the Pacific. *Ethn Dis*. 2005;15(4 Suppl 5):S5-71-80.

43. Buenconsejo-Lum L, Navasca D, Jeong Y, Wong E, Torris T. *Cancer in the U.S. Affiliated Pacific Islands 2007–2011*. Honolulu, HI: Pacific Regional Central Cancer Registry, Cancer Council of the Pacific Islands and John A. Burns School of Medicine.;2014.

44. US Department of Health and Human Services Office of Minority Health. Profile: Native Hawaiian and Pacific Islanders. 2015; <http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=65>. Accessed June 15, 2015.

45. National Center for Health Statistics. *2011Health, United States, 2011: With Special Feature on Socioeconomic Status and Health*. Hyattsville, MD. 2012.

46. National Center for Health Statistics. *Health, United States, 2013: With Special Feature on Prescription Drugs*. Hyattsville, MD2014.

47. Arias E. *United States life tables, 2001*. . Hyattsville, Maryland: National Center for Health Statistics.2004.

48. Taylor R, Lewis N, Levy S. Societies in transition: mortality patterns in Pacific Island populations. *Int J Epidemiol*. 1989;18(3):634-646.

49. Stephanie Cooke. *In Mortal Hands: A Cautionary History of the Nuclear Age*. Bloomsbury USA; 2010.

50. Pollock, NJ. Health transitions, fast and nasty: exposure to nuclear radiation. *Pacific Health Dialog*. 2002;9(2):275-282.

51. Guyer, RL. Radioactivity and rights: clashes at Bikini Atoll. *American Journal of Public Health*. 2001;91(9):1371-1376.

52. Barker H. *Bravo for the Marshallese: Regaining Control in a Post-Nuclear, the case of Marshallese Post-Colonial World*. 2nd ed. ed: Cengage Learning; 2012.

53. Lessard ET, Miltenberger RP, Cohn SH, Musolino SV, Conard RA. Protracted exposure to fallout: the Rongelap and Utirik experience. *Health Physics*. 1984;46(3):511-527.

54. Robison WL, Bogen KT, Conrado CL. An updated dose assessment for resettlement options at Bikini Atoll--a U.S. nuclear test site. *Health Physics*. 1997;73(1):100-114.

55. Bogen KT, Conrado CL, Robison WL. Uncertainty and variability in updated estimates of potential dose and risk at a U.S. nuclear test site--Bikini Atoll. *Health Physics*. 1997;73(1):115-126.

56. Gilbert ES, Land CE, Simon SL. Health effects from fallout. *Health Physics*. 2002;82(5):726-735.

57. Kroon E, Reddy R, Gunawardane K, et al. Cancer in the Republic of the Marshall Islands. *Pacific Health Dialog*. 2004;11(2):70-77.

58. Division of Cancer Epidemiology and Genetics NCI. Estimation of the baseline number of cancers among Marshallese and the number of cancers attributable to exposure to fallout from nuclear weapons testing conducted in the Marshall Islands. 2004; http://dceg.cancer.gov/RMIdocs/9-28Response_appendix.pdf. Accessed 06/26/2005.

59. Gittelsohn J, Haberle H, Vastine AE, Dyckman W, Palafox NA. Macro- and microlevel processes affect food choice and nutritional status in the republic of the marshall islands. *The Journal Of Nutrition*. 2003;133(1):310S-313S.

60. Martin EJ, Rowland RH. *Castle Series, 1951*. United States Department of Energy;1982. DNA 6035F (1 April 1982).

61. Adams W, Heotis P, Scott W. *Medical Status of Marshallese Accidentally Exposed to 1954 Bravo Fallout Radiation: January 1985 through December 1987*. Upton, NY: Brookhaven National Laboratory; January 1989 1989. BNL-52192 UC-408.
62. Cohn SH, Rinehart RW, Gong JK, et al. *Nature and Extent of Internal Radioactive Contamination of Human Beings, Plants, and Animals Exposed to Fallout*. Bethesda, MD and San Francisco, CA: Naval Medical Research Institute and Naval Radiological Defense Laboratory; March 1954 1955. WT-036.
63. Sondhaus CA, Bond VP. *Physical factors and dosimetry in the Marshall Island radiation exposures*. Ft. Belvoir, VA: Naval Radiological Defense Laboratory; December 1955 1955. WT-939 (December 1955).
64. Wergowske G, & Blanchette, P.L. Health and health care of elders from Native Hawaiian and other Pacific Islander backgrounds. 2001; <http://web.stanford.edu/group/ethnoger/nativehawaiian.html>.
65. McElfish P. University of Arkansas for Medical Sciences-Northwest Focus Groups with Marshallese Community, March 2014. In. Springdale, AR: University of Arkansas for Medical Sciences-Northwest; 2014.
66. McElfish P. UAMS-NW Marshallese Focus Groups. In. Springdale, AR: University of Arkansas for Medical Sciences-Northwest; 2013.
67. McElfish P. University of Arkansas for Medical Sciences-Northwest Focus Groups with Marshallese, December 2013. In. Springdale, AR: University of Arkansas for Medical Sciences-Northwest; 2013.
68. McElfish P. Unpublished summary of interviews with Marshallese Stakeholders from June 2012 through October 2013. In. Springdale, AR and Fayetteville, AR: University of Arkansas for Medical Sciences-Northwest; 2013.
69. McElfish P. Unpublished preliminary planning interviews with local Marshallese and Marshallese healthcare providers from August 2012 through November 2013. In. Springdale, AR and Fayetteville, AR: University of Arkansas for Medical Sciences-Northwest; 2012-2013.
70. Wallerstein N. Power between evaluator and community: Research relationships within New Mexico's healthier communities. *Soc Sci Med*. 1999;49:39-53.
71. Minkler M. Ethical Challenges for the "Outside" Researcher in Community-Based Participatory Research. *Health Education & Behavior*. 2004;31.
72. Wallerstein N, Duran B. Using Community-Based Participatory Research to Address Health Disparities. *Health Promotion Practice*. 2006;7(3):312-323.
73. Minkler M, & Wallerstein, N., (eds.). *Community-Based Participatory Research for Health: From Process to Outcomes*. San Francisco, CA: Jossey-Bass Publishers; 2008.
74. Moher D, Shamseer L, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Syst Rev*. 2015;4:1.
75. Shamseer L, Moher D, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ*. 2015;349:g7647.
76. Charmaz K. 'Discovering' chronic illness: using grounded theory. *Soc Sci Med*. 1990;30(11):1161-1172.
77. Charmaz K. Teaching Theory Construction With Initial Grounded Theory Tools: A Reflection on Lessons and Learning. *Qual Health Res*. 2015;25(12):1610-1622.

APPENDIX #1

MEDLINE SEARCH STRATEGY

Ovid MEDLINE(R) <1946 to August Week 1 2017>

#	Searches	Results	Type
1	exp Oceanic Ancestry Group/	8871	Advanced
2	("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or maui).ti,ab.	7465	Advanced
3	("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).ti,ab.	14366	Advanced
4	1 or 2 or 3	28011	Advanced
5	exp Community-Based Participatory Research/	3400	Advanced
6	(action adj2 (inquiry or "oriented participatory research" or research or science)).ti,ab.	3657	Advanced
7	cbpr.ti,ab.	740	Advanced
8	((communit* or consumer*) adj2 (based or centered or driven or engaged or involved or partnered or wide) adj1 (research or studies or study)).ti,ab.	4565	Advanced
9	((participatory or "patient-centered" or "patient-centric") adj2 research).ti,ab.	3442	Advanced
10	5 or 6 or 7 or 8 or 9	12560	Advanced
11	4 and 10	292	Advanced
12	exp Oceanic Ancestry Group/	8871	Advanced
13	("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or	10566	Advanced

	"kua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or maui).mp.		
	("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).mp.	20125	Advanced
15	12 or 13 or 14	36468	Advanced
16	exp Community-Based Participatory Research/	3400	Advanced
17	(action adj2 (inquiry or "oriented participatory research" or research or science)).mp.	3852	Advanced
18	cbpr.mp.	761	Advanced
19	((communit* or consumer*) adj2 (based or centered or driven or engaged or involved or partnered or wide) adj1 (research or studies or study)).mp.	4635	Advanced
20	((participatory or "patient-centered" or "patient-centric") adj2 research).mp.	5569	Advanced
21	16 or 17 or 18 or 19 or 20	12931	Advanced
22	15 and 21	326	Advanced
23	limit 22 to yr="2000 - 2017"	304	Advanced

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PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item	Page Addressed
ADMINISTRATIVE INFORMATION			
Title:			
Identification	1a	Identify the report as a protocol of a systematic review	1
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	N/A
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	N/A
Authors:			
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	1
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	5
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	N/A
Support:			
Sources	5a	Indicate sources of financial or other support for the review	9
Sponsor	5b	Provide name for the review funder and/or sponsor	N/A
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	N/A
INTRODUCTION			
Rationale	6	Describe the rationale for the review in the context of what is already known	1-3
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	3
METHODS			
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review	3-5
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage	3-5
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be	Appendix A

repeated			
Study records:			
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	6
Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)	6-7
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	6-8
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications	8-9
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	5-7
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	6-8
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	3-5
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2 , Kendall's τ)	N/A
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	N/A
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	6-8
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)	N/A
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	N/A

*From: Shamseer L, Moher D, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. BMJ. 2015;349:g7647.

BMJ Open

Best Practices for Community-Engaged Participatory Research with Pacific Islander Communities in the US and USAPI: Protocol for a Scoping Review

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2017-019653.R1
Article Type:	Protocol
Date Submitted by the Author:	08-Nov-2017
Complete List of Authors:	McElfish, Pearl; UAMS, Northwest Ayers, Britni ; UAMS, Northwest Purvis, Rachel; UAMS, Northwest Long, Christopher; UAMS, Northwest Sinclair, Ka'imi; Washington State University , College of Nursing Esquivel, Monica; University of Hawaii Manoa, Department of Human Nutrition Food and Animal Science Steelman, Susan; University of Arkansas for Medical Sciences, Division of Academic Affairs
Primary Subject Heading:	Health policy
Secondary Subject Heading:	Diabetes and endocrinology
Keywords:	Community-based participatory research, Pacific Islanders, scoping review, community-engaged

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**Best Practices for Community-Engaged Participatory Research with Pacific Islander
Communities in the US and USAPI: Protocol for a Scoping Review**

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Abstract

Introduction: Community-based participatory research is a partnership approach to research that seeks to equally involve community members, organizational representatives, and academic partners throughout the research process in a co-equal and mutually beneficial partnership. To date, no published article has synthesized the best practices for Community-based participatory research practices with Pacific Islanders.

Methods and Analysis: The reviewers will examine studies’ titles, abstracts, and full-text, comparing eligibility to address discrepancies. For each eligible study, data extraction will be executed by two reviewers and one confirmation coder, comparing extracted data to address any discrepancies. Eligible data will be synthesized and reported in a narrative review assessing coverage and gaps in existing literature related to Community-based participatory research with Pacific Islanders.

Ethics and Dissemination: The purpose of this review is to identify best practices used when conducting Community-based participatory research with Pacific Islanders; it will also extrapolate where the gaps are in the existing literature. This will be the first scoping review on Community-based participatory research with Pacific Islanders. To facilitate dissemination, the results of this scoping review will be submitted for publication to a peer-reviewed journal, presented at conferences, and shared with Community-based participatory research stakeholders.

Keywords: Community-based participatory research, Pacific Islanders, scoping review, community-engaged

Strengths and Limitations

- This is the first scoping review to address the literature on Community-based participatory research with Pacific Islanders.
- The review will provide a synthesis of existing studies, it will be useful to Community-based participatory partnerships with Pacific Islanders, and other collectivist cultures.
- This scoping review is focused on assessment of the coverage and gaps in the existing literature, so quality assessment of individual studies will not be a primary emphasis.

Best Practices for Community-Engaged Participatory Research with Pacific Islander Communities in the US and USAPI: Protocol for a Scoping Review

INTRODUCTION

Community-based participatory research (CBPR) is an approach to research that seeks to equally involve community members, organizational representatives, and academic partners throughout the research process in a co-equal and mutually beneficial partnership.¹⁻⁵ CBPR is not a specific research method but rather a realignment to research that seeks to foster an environment of shared power. This approach is in contrast to traditional research ontological positions wherein the academics are the experts conducting research with little input from the community being studied. The essential components of CBPR include: equitably including a specific community in all phases of research; building capacity within a community to drive the focus of the research that is of interest to community stakeholders; and implementing research that results in tangible action and directly improves the community's well-being.^{5,6} CBPR has demonstrated efficacy in building alliances to conduct research with disenfranchised communities.¹ Engaged research is referred to by other terms including action research, CBPR, and patient-centered research; the term CBPR will be used throughout this protocol.

BACKGROUND

Pacific Islanders are the second fastest growing population in the US, and grew 40% between 2000 and 2010.⁷⁻⁹ In addition to the continental US and Hawaii, many Pacific Islanders reside in the US Affiliated Pacific Islands (USAPI). The USAPI includes three US territories: American Samoa, the Commonwealth of the Northern Mariana Islands and Guam, and three independent countries in free association with the US: the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. Pacific Islanders are underrepresented in health research, and much of the available research aggregates data from

Pacific Islanders and Asian Americans, obscuring the disparities between and within these two heterogeneous populations.¹⁰⁻¹⁴ While data aggregation has limited the number of available data, existing research reveals profound health disparities among Pacific Islanders compared to the general US population.¹⁵⁻³⁹ These disparities include higher rates of diabetes, cardiovascular disease, obesity, and cancer.⁴⁰⁻⁴⁴ While national data about life expectancy is not available for Pacific Islanders due to aggregation,⁴⁵⁻⁴⁷ individual state and US territory data document life expectancy for Pacific Islanders as 68.3 years,⁴⁸ compared to the life expectancies of 78 years for non-Hispanic Whites and 79 years for the total US population.⁴⁷

Pacific Islanders' health disparities can be attributed to many factors, including a history that has been marked by trauma, exploitation, and exclusion. Between 1946 and 1958, the US military detonated 67 fission and thermonuclear devices in the USAPI region, which were equivalent in payload to 7,200 Hiroshima-sized bombs.⁴⁹⁻⁵² These nuclear tests caused acute radiation exposure and subsequent illness, and contaminated the soil, ocean, and fresh water resources of the USAPI region of the Marshall Islands resulting in food insecurity and serious long-term health effects.^{50,52-59} After nuclear testing, the US began Project 4.1 in which Islanders who were exposed to nuclear fallout were interned in a camp in order to study the effects of radiation on humans.⁶⁰⁻⁶³ The research was conducted without the informed consent of the Pacific Islanders and without translation of the study information into the native language.⁵² This historical trauma has contributed to deep apprehension and distrust of western medicine and research.⁶⁴⁻⁶⁹ Historical trauma perpetuates ethical challenges that must be addressed in order to conduct research with Pacific Islanders.^{70,71}

One way to address the effects of historical trauma on Pacific Islander communities' perceptions of research is through CBPR.^{70,71} CBPR shares power and builds trust between

academic researchers and the community.^{72,73} To date, no published article has synthesized the best practices for CBPR practices with Pacific Islanders. This leaves an important gap in the literature as researchers seek to address the profound health disparities in the rapidly growing Pacific Islander population in the US.

OBJECTIVES

The aim of this scoping review is to examine the best practices for conducting CBPR with Pacific Islanders. Information from the review can be used to guide CBPR research focused on addressing the health disparities among Pacific Islanders. The review will respond to the following question: What are the best practices for conducting community engaged-research with Pacific Islanders in the US and USAPI?

METHODS

The scoping review protocol was designed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P) statement.^{74,75}

Eligibility criteria

Studies will be selected according to the following criteria. (Table 1)

Table 1.

Participant population:	CBPR studies conducted with Pacific Islanders in the US or USAPI of any sex or age. Studies that aggregate Pacific Islander and Asian American data will be excluded. Study conducted with Pacific Islanders outside the US or USAPI will not be included.
Study type:	All types of studies focused on mental and/or physical health.
Outcomes:	CBPR challenges and best practices.
Context:	Articles that self-identify as using a CBPR approach (or other engaged research term such as action research or patient-centered research).
Study methods:	All types of studies (e.g., randomized controlled trials, mixed methods, cross sectional, descriptive, qualitative, case studies, etc.).

Studies will be limited to research conducted with participants residing in the US and USAPI. Studies published between January of 2000 and December of 2017 in peer-reviewed journals will be included in the review. Only those studies that focus solely on Pacific Islanders will be included. Pacific Islander subgroups include (but are not limited to): Chamorro, Chuukese, Maori, Marshallese, Native Hawaiian, Samoan, and Tongan. Studies that include Asian Americans aggregated with Pacific Islanders will not be included. For the purposes of establishing study eligibility, *CBPR* will be defined as an approach to research that seeks to equally involve community stakeholders and academic partners in the research process in a mutually beneficial partnership.⁶ Studies that self-identify as CBPR or a related term will be included.

Information sources

The following biomedical databases will be searched for articles meeting the eligibility criteria and focused on English language items with 2000-2017 publication dates. These databases include: MEDLINE (OVID), MEDLINE In Process & Daily Updates (OVID), Cumulative Index to Nursing and Allied Health Literature-CINAHL Complete (EBSCO), Science Citation Index, and Social Sciences Citation Index (both via Web of Science). The search of All EBM Reviews (OVID) will include: ACP Journal Club, Cochrane Database of Scoping Reviews, Databases of Abstracts of Reviews of Effects, Cochrane Central Register of Controlled Trials, Cochrane Methodology Register, Health Technology Assessment, and the NHS Economic Evaluation Database. The World Health Organization’s Global Health Library will also be searched for international items. Three researchers will review references for inclusion.

Search strategy

The search strategy will be developed by medical librarian co-author SS, in consultation with co-authors PM, BA, RP, and CL. Medical Subject Headings (MeSH) will be used and explored where appropriate to include specific headings under the MeSH terms. To obtain a comprehensive set of results, MeSH terminology will be combined with advanced textword searching techniques including truncation and adjacency searching. MeSH headings chosen to make up the base strategy include: exp Oceanic Ancestry Group/ AND Community-Based Participatory Research/. Controlled vocabulary headings will be combined with extensive strings with synonymous terms for each main concept. Pacific Islander terms include: ("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or mauai).mp. or ("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).mp. Similar synonymous terminology searching will be combined multiple ways to reach the CBPR concept. Controlled vocabulary headings, search strings and the overall strategy will be adapted as needed for other vendor platforms specific to the database used. These adapted strategies and terms may be requested

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from the corresponding author (PM). The search terms and strategy to be used from MEDLINE (via OVID) are presented in Appendix 1.

Data management

Search results will be exported, stored, and shared among co-authors using RefWorks (version 2.0),²¹ an Internet-based reference management service. Duplicate records will be removed from search results by using RefWorks’ duplicate-check function with manual oversight prior to duplicate removal. De-duplicated records will be exported from RefWorks into a Microsoft Excel 2013 (version 15.0) spreadsheet to facilitate the study selection process.²²

Study selection process

The title and abstract of manuscripts will be reviewed to determine whether the study meets all the eligibility criteria. If the title and abstract of any manuscript do not provide enough information to confirm eligibility, the full article will be reviewed by two researchers to determine if it meets the inclusion criteria. If it is still unclear if the manuscript is eligible, a third reviewer will review the manuscript and a final decision will be made. In the event that multiple publications of a single eligible study are identified, both publications will be included. However, when tabulating quantitative results care will be taken to avoid double-counting single studies.

Data extraction process

Data extraction from each eligible study will be performed by two researchers independently. Then, they will compare the results of the extraction process. Discrepancies in extracted data will be discussed and resolved between the researchers; a third reviewer will be consulted if necessary. If data extraction for an eligible study cannot be completed due to inadequate description of the study in an article’s full text, researchers will contact the

publication's corresponding author via email (up to three attempts) to acquire the missing information. If there are multiple publications of a single eligible study, data will be extracted from the multiple publications. In these cases, extracted data will be evaluated across publications for any inconsistencies. If inconsistencies are identified, researchers will attempt to resolve inconsistencies through discussion or by contacting the publications' corresponding author via email (up to three attempts). Before data extraction begins, researchers will pilot the extraction spreadsheet on a small sample of eligible studies and adjust the extraction spreadsheet or extraction procedures as necessary.

Data items

The following data will be extracted from each eligible article. (Table 2)

Table 2.

Participant population	<ul style="list-style-type: none"> • Race/ethnicity • Subgroup of Pacific Islander • Geographic location • Sex • Age group
Study design	<ul style="list-style-type: none"> • Randomized controlled trial • Case study • Etc.
Study method(s)	<ul style="list-style-type: none"> • Qualitative • Quantitative • Mixed methods • Etc.
Study setting	<ul style="list-style-type: none"> • Churches • Clinical setting • School systems • Community setting • Etc.
Best Practices	<ul style="list-style-type: none"> • Best practices related to CBPR design, implementation setting, individuals involved, and implementation process.

Publication details	<ul style="list-style-type: none">• Authors• Article title• Journal title• Year of publication• Volume number• Issue number• Page numbers• Funding source• Was a community author identified
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Because this scoping review’s focus is to assess the coverage and gaps in the literature about CBPR best practices with Pacific Islanders, quality assessment of individual eligible studies will not be a primary focus of the data extraction process.

Data synthesis

Data synthesis will include producing quantitative summaries of extracted data that include frequencies and percentages for many of the extracted data fields. For the Best Practices Field, the researchers, trained in qualitative methods, will begin by coding each segment of data using an inductive coding process to generate a list of emerging best practices. Then researchers will organize emergent codes into a code book that will be used to code each data segment. This process will help organize the data for focused thematic coding and allow the researchers to create salient summaries of best practices.^{76,77} These summaries will be utilized to present the convergent and divergent themes within the studies. Additionally, these summaries will allow us to identify gaps in the existing literature.

Discussion/Ethics & Dissemination

The purpose of this scoping review is to identify best practices used when conducting CBPR with Pacific Islanders; it will also extrapolate where the gaps are in the existing literature. This will be the first scoping review on CBPR with Pacific Islanders. For this reason, it will be useful to CBPR partnerships with Pacific Islanders that are seeking to address the profound

health disparities in the rapidly growing Pacific Islander population. To facilitate dissemination, the results of this scoping review will be submitted for publication to a peer-reviewed journal, presented at conferences, and shared with CBPR stakeholders.

Authors' Contributions

PM, BA, RP, CL, KS, and ME designed the protocol, and SS developed the search strategy in consultation with PM, BA, and RP. PM, BA, and RP drafted the protocol, and SS, CL, and KS revised the protocol. All authors approved the current version of the protocol.

Funding Statement

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Competing Interests

The authors have no competing interests to declare.

References

1. Vaughn LM, Jacquez F, Lindquist-Grantz R, Parsons A, Melink K. Immigrants as Research Partners: A Review of Immigrants in Community-Based Participatory Research (CBPR). *J Immigr Minor Health*. 2016.

2. Townsend C, Dillard A, Hosoda K, et al. Community-based participatory research integrates behavioral and biological research to achieve health equity for Native Hawaiians. In. Vol 13. *International Journal of Environmental Research and Public Health* 2015:1-10.

3. National Institutes of Health. Community-Based Participatory Research Program (CBPR). 2017; <https://www.nimhd.nih.gov/programs/extramural/community-based-participatory.html>.

4. Panapasa S, Jackson J, Caldwell C, et al. Community-Based Participatory Research Approach to Evidence-Based Research: Lessons From the Pacific Islander American Health Study. *Prog Community Health Partnersh*. 2012;6(1):53-58.

5. Israel BA, Coombe CM, Cheezum RR, et al. Community-based participatory research: a capacity-building approach for policy advocacy aimed at eliminating health disparities. *Am J Public Health*. 2010;100(11):2094-2102.

6. Israel BA, Schulz AJ, Parker EA, Becker AB. Review of community-based research: assessing partnership approaches to improve public health. *Annu Rev Public Health*. 1998;19:173-202.

7. Grieco E. The Native Hawaiian and other Pacific Islander population: Census 2000 brief. 2001. 2001; <http://www.census.gov/prod/2001pubs/c2kbr01-14.pdf>. Accessed 09/17/2008.

8. Bureau USC. *2010 Census Shows More than Half of Native Hawaiians and Other Pacific Islanders Report Multiple Races*. 2010.

9. Hixson L, Hepler B, Kim M. The Native Hawaiian and Other Pacific Islander Population: 2010. 2012; <http://www.census.gov/prod/cen2010/briefs/c2010br-12.pdf>.

10. Working Group of Applied Research Center and National Council of Asian Pacific Americans. Best Practices: Researching Asian Americans, Native Hawaiians and Pacific Islanders. <http://ncapaonline.org/BestPracticesAANHPI.pdf>. Accessed September 12, 2013.

11. Ro M, Lee AK. Out of the Shadows: Asian Americans, Native Hawaiians, and Pacific Islanders. *Am J Public Health*. 2010;100(5):776-778.

12. Srinivasan S GT. Toward improved health: Disaggregating Asian American and Native Hawaiian Pacific Islander data. *American Journal of Public Health*. 2000;90:1731-1734.

13. Nguyen A, Chawla N, Noone A, Srinivasan S. Disaggregated Data and Beyond: Future Queries in Cancer Control Research. *Cancer Epidemiol Biomarkers Prev*. 2014;23(11):2266-2272.

14. Ahmad F, Weller C. *Reading Between the Data The Incomplete Story of Asian Americans, Native Hawaiians, and Pacific Islanders*. 2014.

15. Moy K, Sallis J, David K. Health Indicators of Native Hawaiian and Pacific Islanders in the United States. *Journal of Community Health*. 2010;35(1):81-82.

16. Look M, Trask-Batti M, Mau M, Kaholokula J. *Assessment and Priorities for Health & Well-being in Native Hawaiians and other Pacific Peoples*. Honolulu, HI: University of Hawaii;2013.

17. Mau M. Health and Health Care of Native Hawaiian & Other Pacific Islander Older Adults. In: Stanford School of Medicine; 2010:1-38.

18. Center for Disease Control and Prevention. CDC - NHOPI - Native Hawaiian - Other - Pacific Islander - Populations - Racial - Ethnic - Minorities - Minority Health. 2015; <http://www.cdc.gov/minorityhealth/populations/REMP/nhopi.html>. Accessed May, 14, 2015.

19. Asian American's Advancing Justice. *A community of contrasts: Native Hawaiians and Pacific Islanders in the United States*. 2014.

20. Asian & Pacific Islander Health Forum. *Native Hawaiian and Pacific Islander Health Disparities*. 2010.
21. Braun K, Kim B, Ka'opua L, Mokuau N, Browne C. Native Hawaiian and Pacific Islander Elders: What Gerontologists Should Know. *Gerontologist*. 2014.
22. Evaluation IfHMa. GBD Profile: Federated States of Micronesia. 2010;
http://www.healthdata.org/sites/default/files/files/country_profiles/GBD/ihme_gbd_country_report_federated_states_of_micronesia.pdf.
23. Panapasa S, Jackson J, Caldwell C, Heeringa S, McNally J, Williams D. *Pacific Islander Health Study Report: Preliminary Findings*. 2012.
24. United Nations Population Fund. Population and Development Profiles: Pacific Island Countries. 2014;
http://countryoffice.unfpa.org/pacific/drive/web_140414_UNFPAPopulationandDevelopmentProfiles-PacificSub-RegionExtendedv1LRv2.pdf.
25. Economic Policy PaSO, Republic of the Marshall Islands, and the SPC Statistics for Development Programme,. *Republic of the Marshall Islands 2011 Census report*. Noumea, New Caledonia 2011. 978-982-00-0564-8.
26. Moy K, Sallis J, Trinidad D, Ice C, McEligot AJ. Health behaviors of native Hawaiian and Pacific Islander adults in California. *Asia Pac J Public Health*. 2012;24(6):961-969.
27. Aitaoto N, Ichiho H. Assessing the Health Care System of Services for Non-Communicable Diseases in the US-affiliated Pacific Islands: A Pacific Regional Perspective. *Hawaii J Med Public Health*. 2013;72(5 Suppl 1):106-114.
28. Palafox N. Health Consequences of the Pacific U.S. Nuclear Weapons Testing Program in the Marshall Islands: Inequity in Protection, Policy, Regulation, Presidents Cancer Panel. *Reviews of Environmental Health*. 2010;1:81-85.
29. Palafox N, Riklon S, Alik W, Hixon A. Health consequences and health systems response to the Pacific U.S. Nuclear Weapons Testing Program. *Pac Health Dialog*. 2007;14(1):170-178.
30. Palafox NY, S. The health predicament of the U.S.-associated Pacific Islands: What role for primary health care? *Asian American Pacific Islander Journal of Health*. 1997;5:49-56.
31. Pobutsky A, Krupitsky D, Yamada S. Micronesian migrant health issues in Hawaii: Part 2: An assessment of health, language and key social determinants of health. *Californian Journal of Health Promotion*. 2009;7:32-55.
32. Yamada S, Pobutsky A. Micronesian Migrant Health Issues in Hawaii: Part 1: Background, Home Island Data, and Clinical Evidence. *Californian Journal of Health Promotion*. 2009;7(2):16-31.
33. Center for Disease Control and Prevention. United States Affiliated Pacific Islands, 2011 - TB. 2011; <http://www.cdc.gov/tb/statistics/reports/2011/pdf/pacificislands.pdf>.
34. Blackwell D, Lucas H, Clarke T. Summary Health Statistics for US Adults: National Health Interview Survey, 2012. In. Vol 10(260). National Center for Health Statistics 2014.
35. Prevention CfDca. Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2011. In. *Vital and Health Statistics* 2012.
36. Schiller J, Lucas J, Ward B, JA P. *Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2010*. National Center for Health Statistics; 2012.
37. Pleis J, Ward B, Lucas J. Summary Health Statistics for US Adults: National Health Interview Survey, 2009. 2010; 10(249):http://www.cdc.gov/nchs/data/series/sr_10/sr10_249.pdf.
38. Pleis J, Ward B. Summary health statistics for U.S. adults: National health interview survey, 2008. National Center for Health Statistics. In. *Vital Health Statistics*. Vol 102009.
39. Pleis J, Lucas J. Summary Health Statistics for US Adults: National Health Interview Survey, 2007. *Vital Health Statistics* 2009; 10(240):http://www.cdc.gov/nchs/data/series/sr_10/sr10_240.pdf.

40. Tung W-C. Diabetes among Native Hawaiians and Pacific Islanders. *Home Health Care Management & Practice*. 2012;24(6):309-311.

41. Mau M, Sinclair K, Saito E, Baumhofer K, Kaholokula J. Cardiometabolic health disparities in native Hawaiians and other Pacific Islanders. *Epidemiol Rev*. 2009;31:113-129.

42. Okihiro M, Harrigan R. An overview of obesity and diabetes in the diverse populations of the Pacific. *Ethn Dis*. 2005;15(4 Suppl 5):S5-71-80.

43. Buenconsejo-Lum L, Navasca D, Jeong Y, Wong E, Torris T. *Cancer in the U.S. Affiliated Pacific Islands 2007–2011*. Honolulu, HI: Pacific Regional Central Cancer Registry, Cancer Council of the Pacific Islands and John A. Burns School of Medicine.;2014.

44. US Department of Health and Human Services Office of Minority Health. Profile: Native Hawaiian and Pacific Islanders. 2015; <http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=65>. Accessed June 15, 2015.

45. National Center for Health Statistics. *2011Health, United States, 2011: With Special Feature on Socioeconomic Status and Health*. Hyattsville, MD. 2012.

46. National Center for Health Statistics. *Health, United States, 2013: With Special Feature on Prescription Drugs*. Hyattsville, MD2014.

47. Arias E. *United States life tables, 2001*. . Hyattsville, Maryland: National Center for Health Statistics.2004.

48. Taylor R, Lewis N, Levy S. Societies in transition: mortality patterns in Pacific Island populations. *Int J Epidemiol*. 1989;18(3):634-646.

49. Stephanie Cooke. *In Mortal Hands: A Cautionary History of the Nuclear Age*. Bloomsbury USA; 2010.

50. Pollock, NJ. Health transitions, fast and nasty: exposure to nuclear radiation. *Pacific Health Dialog*. 2002;9(2):275-282.

51. Guyer, RL. Radioactivity and rights: clashes at Bikini Atoll. *American Journal of Public Health*. 2001;91(9):1371-1376.

52. Barker H. *Bravo for the Marshallese: Regaining Control in a Post-Nuclear, the case of Marshallese Post-Colonial World*. 2nd ed. ed: Cengage Learning; 2012.

53. Lessard ET, Miltenberger RP, Cohn SH, Musolino SV, Conard RA. Protracted exposure to fallout: the Rongelap and Utirik experience. *Health Physics*. 1984;46(3):511-527.

54. Robison WL, Bogen KT, Conrado CL. An updated dose assessment for resettlement options at Bikini Atoll--a U.S. nuclear test site. *Health Physics*. 1997;73(1):100-114.

55. Bogen KT, Conrado CL, Robison WL. Uncertainty and variability in updated estimates of potential dose and risk at a U.S. nuclear test site--Bikini Atoll. *Health Physics*. 1997;73(1):115-126.

56. Gilbert ES, Land CE, Simon SL. Health effects from fallout. *Health Physics*. 2002;82(5):726-735.

57. Kroon E, Reddy R, Gunawardane K, et al. Cancer in the Republic of the Marshall Islands. *Pacific Health Dialog*. 2004;11(2):70-77.

58. Division of Cancer Epidemiology and Genetics NCI. Estimation of the baseline number of cancers among Marshallese and the number of cancers attributable to exposure to fallout from nuclear weapons testing conducted in the Marshall Islands. 2004; http://dceg.cancer.gov/RMIdocs/9-28Response_appendix.pdf. Accessed 06/26/2005.

59. Gittelsohn J, Haberle H, Vastine AE, Dyckman W, Palafox NA. Macro- and microlevel processes affect food choice and nutritional status in the republic of the marshall islands. *The Journal Of Nutrition*. 2003;133(1):310S-313S.

60. Martin EJ, Rowland RH. *Castle Series, 1951*. United States Department of Energy;1982. DNA 6035F (1 April 1982).

61. Adams W, Heotis P, Scott W. *Medical Status of Marshallese Accidentally Exposed to 1954 Bravo Fallout Radiation: January 1985 through December 1987*. Upton, NY: Brookhaven National Laboratory; January 1989 1989. BNL-52192 UC-408.
62. Cohn SH, Rinehart RW, Gong JK, et al. *Nature and Extent of Internal Radioactive Contamination of Human Beings, Plants, and Animals Exposed to Fallout*. Bethesda, MD and San Francisco, CA: Naval Medical Research Institute and Naval Radiological Defense Laboratory; March 1954 1955. WT-036.
63. Sondhaus CA, Bond VP. *Physical factors and dosimetry in the Marshall Island radiation exposures*. Ft. Belvoir, VA: Naval Radiological Defense Laboratory; December 1955 1955. WT-939 (December 1955).
64. Wergowske G, & Blanchette, P.L. Health and health care of elders from Native Hawaiian and other Pacific Islander backgrounds. 2001; <http://web.stanford.edu/group/ethnoger/nativehawaiian.html>.
65. McElfish P. University of Arkansas for Medical Sciences-Northwest Focus Groups with Marshallese Community, March 2014. In. Springdale, AR: University of Arkansas for Medical Sciences-Northwest; 2014.
66. McElfish P. UAMS-NW Marshallese Focus Groups. In. Springdale, AR: University of Arkansas for Medical Sciences-Northwest; 2013.
67. McElfish P. University of Arkansas for Medical Sciences-Northwest Focus Groups with Marshallese, December 2013. In. Springdale, AR: University of Arkansas for Medical Sciences-Northwest; 2013.
68. McElfish P. Unpublished summary of interviews with Marshallese Stakeholders from June 2012 through October 2013. In. Springdale, AR and Fayetteville, AR: University of Arkansas for Medical Sciences-Northwest; 2013.
69. McElfish P. Unpublished preliminary planning interviews with local Marshallese and Marshallese healthcare providers from August 2012 through November 2013. In. Springdale, AR and Fayetteville, AR: University of Arkansas for Medical Sciences-Northwest; 2012-2013.
70. Wallerstein N. Power between evaluator and community: Research relationships within New Mexico's healthier communities. *Soc Sci Med*. 1999;49:39-53.
71. Minkler M. Ethical Challenges for the "Outside" Researcher in Community-Based Participatory Research. *Health Education & Behavior*. 2004;31.
72. Wallerstein N, Duran B. Using Community-Based Participatory Research to Address Health Disparities. *Health Promotion Practice*. 2006;7(3):312-323.
73. Minkler M, & Wallerstein, N., (eds.). *Community-Based Participatory Research for Health: From Process to Outcomes*. San Francisco, CA: Jossey-Bass Publishers; 2008.
74. Moher D, Shamseer L, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Syst Rev*. 2015;4:1.
75. Shamseer L, Moher D, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ*. 2015;349:g7647.
76. Charmaz K. 'Discovering' chronic illness: using grounded theory. *Soc Sci Med*. 1990;30(11):1161-1172.
77. Charmaz K. Teaching Theory Construction With Initial Grounded Theory Tools: A Reflection on Lessons and Learning. *Qual Health Res*. 2015;25(12):1610-1622.

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4		APPENDIX #1		
5		MEDLINE SEARCH STRATEGY		
6				
7		Ovid MEDLINE(R) <1946 to August Week 1 2017>		
8				
9				
10	#	Searches	Results	Type
11				
12	1	exp Oceanic Ancestry Group/	8871	Advanced
13				
14		("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or		
15		"kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or	7465	Advanced
16	2	lanai or "kaho'olawe" or kahoolawe or mau).ti,ab.		
17				
18				
19		("austral islands" or australasia or "caroline islands" or carolinian or		
20		chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or		
21		fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or		
22		kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall		
23		islands" or marshallese or melanesia or melanesian or micronesia or		
24	3	micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander"	14366	Advanced
25		or "pacific islands" or palau or palauan or "papua new guinea" or "papua new		
26		guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian		
27		or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american		
28		samoa" or samoa or samoan).ti,ab.		
29				
30				
31				
32	4	1 or 2 or 3	28011	Advanced
33				
34				
35	5	exp Community-Based Participatory Research/	3400	Advanced
36				
37	6	(action adj2 (inquiry or "oriented participatory research" or research or	3657	Advanced
38		science)).ti,ab.		
39				
40	7	cbpr.ti,ab.	740	Advanced
41				
42				
43	8	((communit* or consumer*) adj2 (based or centered or driven or engaged or	4565	Advanced
44		involved or partnered or wide) adj1 (research or studies or study)).ti,ab.		
45				
46	9	((participatory or "patient-centered" or "patient-centric") adj2	3442	Advanced
47		research).ti,ab.		
48				
49	10	5 or 6 or 7 or 8 or 9	12560	Advanced
50				
51	11	4 and 10	292	Advanced
52				
53				
54	12	exp Oceanic Ancestry Group/	8871	Advanced
55				
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13	("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or maui).mp.	10566	Advanced
14	("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).mp.	20125	Advanced
15	12 or 13 or 14	36468	Advanced
16	exp Community-Based Participatory Research/	3400	Advanced
17	(action adj2 (inquiry or "oriented participatory research" or research or science)).mp.	3852	Advanced
18	cbpr.mp.	761	Advanced
19	((communit* or consumer*) adj2 (based or centered or driven or engaged or involved or partnered or wide) adj1 (research or studies or study)).mp.	4635	Advanced
20	((participatory or "patient-centered" or "patient-centric") adj2 research).mp.	5569	Advanced
21	16 or 17 or 18 or 19 or 20	12931	Advanced
22	15 and 21	326	Advanced
23	limit 22 to yr="2000 - 2017"	304	Advanced

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PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item	Page Addressed
ADMINISTRATIVE INFORMATION			
Title:			
Identification	1a	Identify the report as a protocol of a systematic review	1
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	N/A
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	N/A
Authors:			
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	1
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	5
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	N/A
Support:			
Sources	5a	Indicate sources of financial or other support for the review	9
Sponsor	5b	Provide name for the review funder and/or sponsor	N/A
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	N/A
INTRODUCTION			
Rationale	6	Describe the rationale for the review in the context of what is already known	1-3
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	3
METHODS			
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review	3-5
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage	3-5
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be	Appendix A

repeated			
Study records:			
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	6
Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)	6-7
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	6-8
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications	8-9
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	5-7
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	6-8
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	3-5
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2 , Kendall's τ)	N/A
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	N/A
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	6-8
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)	N/A
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	N/A

*From: Shamseer L, Moher D, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. BMJ. 2015;349:g7647.

BMJ Open

Best Practices for Community-Engaged Participatory Research with Pacific Islander Communities in the US and USAPI: Protocol for a Scoping Review

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2017-019653.R2
Article Type:	Protocol
Date Submitted by the Author:	01-Dec-2017
Complete List of Authors:	McElfish, Pearl; UAMS, Northwest Ayers, Britni ; UAMS, Northwest Purvis, Rachel; UAMS, Northwest Long, Christopher; UAMS, Northwest Sinclair, Ka'imi; Washington State University , College of Nursing Esquivel, Monica; University of Hawaii Manoa, Department of Human Nutrition Food and Animal Science Steelman, Susan; University of Arkansas for Medical Sciences, Division of Academic Affairs
Primary Subject Heading:	Health policy
Secondary Subject Heading:	Diabetes and endocrinology
Keywords:	Community-based participatory research, Pacific Islanders, scoping review, community-engaged

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**Best Practices for Community-Engaged Participatory Research with Pacific Islander
Communities in the US and USAPI: Protocol for a Scoping Review**

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18 **Manuscript Word Count:** 2331
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Abstract

Introduction: Community-based participatory research is a partnership approach to research that seeks to equally involve community members, organizational representatives, and academic partners throughout the research process in a co-equal and mutually beneficial partnership. To date, no published article has synthesized the best practices for Community-based participatory research practices with Pacific Islanders.

Methods and Analysis: The reviewers will examine studies’ titles, abstracts, and full-text, comparing eligibility to address discrepancies. For each eligible study, data extraction will be executed by two reviewers and one confirmation coder, comparing extracted data to address any discrepancies. Eligible data will be synthesized and reported in a narrative review assessing coverage and gaps in existing literature related to Community-based participatory research with Pacific Islanders.

Discussion and Dissemination: The purpose of this review is to identify best practices used when conducting Community-based participatory research with Pacific Islanders; it will also extrapolate where the gaps are in the existing literature. This will be the first scoping review on Community-based participatory research with Pacific Islanders. To facilitate dissemination, the results of this scoping review will be submitted for publication to a peer-reviewed journal, presented at conferences, and shared with Community-based participatory research stakeholders.

Keywords: Community-based participatory research, Pacific Islanders, scoping review, community-engaged

Strengths and Limitations

- This is the first scoping review to address the literature on Community-based participatory research with Pacific Islanders.
- The review will provide a synthesis of existing studies, it will be useful to Community-based participatory partnerships with Pacific Islanders, and other collectivist cultures.
- This scoping review is focused on assessment of the coverage and gaps in the existing literature, so quality assessment of individual studies will not be a primary emphasis.

Best Practices for Community-Engaged Participatory Research with Pacific Islander Communities in the US and USAPI: Protocol for a Scoping Review

INTRODUCTION

Community-based participatory research (CBPR) is an approach to research that seeks to equally involve community members, organizational representatives, and academic partners throughout the research process in a co-equal and mutually beneficial partnership.¹⁻⁵ CBPR is not a specific research method but rather a realignment to research that seeks to foster an environment of shared power. This approach is in contrast to traditional research ontological positions wherein the academics are the experts conducting research with little input from the community being studied. The essential components of CBPR include: equitably including a specific community in all phases of research; building capacity within a community to drive the focus of the research that is of interest to community stakeholders; and implementing research that results in tangible action and directly improves the community's well-being.^{5,6} CBPR has demonstrated efficacy in building alliances to conduct research with disenfranchised communities.¹ Engaged research is referred to by other terms including action research, CBPR, and patient-centered research; the term CBPR will be used throughout this protocol.

BACKGROUND

Pacific Islanders are the second fastest growing population in the US, and grew 40% between 2000 and 2010.⁷⁻⁹ In addition to the continental US and Hawaii, many Pacific Islanders reside in the US Affiliated Pacific Islands (USAPI). The USAPI includes three US territories: American Samoa, the Commonwealth of the Northern Mariana Islands and Guam, and three independent countries in free association with the US: the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. Pacific Islanders are underrepresented in health research, and much of the available research aggregates data from

Pacific Islanders and Asian Americans, obscuring the disparities between and within these two heterogeneous populations.¹⁰⁻¹⁴ While data aggregation has limited the number of available data, existing research reveals profound health disparities among Pacific Islanders compared to the general US population.¹⁵⁻³⁹ These disparities include higher rates of diabetes, cardiovascular disease, obesity, and cancer.⁴⁰⁻⁴⁴ While national data about life expectancy is not available for Pacific Islanders due to aggregation,⁴⁵⁻⁴⁷ individual state and US territory data document life expectancy for Pacific Islanders as 68.3 years,⁴⁸ compared to the life expectancies of 78 years for non-Hispanic Whites and 79 years for the total US population.⁴⁷

Pacific Islanders' health disparities can be attributed to many factors, including a history that has been marked by trauma, exploitation, and exclusion. Between 1946 and 1958, the US military detonated 67 fission and thermonuclear devices in the USAPI region, which were equivalent in payload to 7,200 Hiroshima-sized bombs.⁴⁹⁻⁵² These nuclear tests caused acute radiation exposure and subsequent illness, and contaminated the soil, ocean, and fresh water resources of the USAPI region of the Marshall Islands resulting in food insecurity and serious long-term health effects.^{50,52-59} After nuclear testing, the US began Project 4.1 in which Islanders who were exposed to nuclear fallout were interned in a camp in order to study the effects of radiation on humans.⁶⁰⁻⁶³ The research was conducted without the informed consent of the Pacific Islanders and without translation of the study information into the native language.⁵² This historical trauma has contributed to deep apprehension and distrust of western medicine and research.⁶⁴⁻⁶⁹ Historical trauma perpetuates ethical challenges that must be addressed in order to conduct research with Pacific Islanders.^{70,71}

One way to address the effects of historical trauma on Pacific Islander communities' perceptions of research is through CBPR.^{70,71} CBPR shares power and builds trust between

academic researchers and the community.^{72,73} There is evidence for the effectiveness of using CBPR to engage minority, immigrant, and migrant populations in research to reduce health disparities.⁷⁴⁻⁷⁹ In addition, there is evidence for the effectiveness of using CBPR to reduce health disparities in populations that have experienced historical trauma.⁸⁰ To date, no published article has synthesized the best practices for CBPR practices with Pacific Islanders. This leaves an important gap in the literature as researchers seek to address the profound health disparities in the rapidly growing Pacific Islander population in the US.

OBJECTIVES

The aim of this scoping review is to examine the best practices for conducting CBPR with Pacific Islanders. Information from the review can be used to guide CBPR research focused on addressing the health disparities among Pacific Islanders. The review will respond to the following question: What are the effective best practices identified by previous CBPR researchers for conducting community engaged-research with Pacific Islanders in the US and USAPI? Best practices are defined as the methods identified as most effective (i.e. successful) by CBPR researchers across multiple studies as outlined by Israel et al (2012).⁸¹

METHODS

The scoping review protocol was designed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P) statement.^{82,83}

Eligibility criteria

Studies will be selected according to the following criteria. (Table 1)

Table 1.

Participant population:	CBPR studies conducted with Pacific Islanders in the US or USAPI of any sex or age. Studies that aggregate Pacific Islander and Asian American data will be excluded. Study conducted with Pacific
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	Islanders outside the US or USAPI will not be included.
Study type:	All types of studies focused on mental and/or physical health.
Outcomes:	CBPR challenges and best practices.
Context:	Articles that self-identify as using a CBPR approach (or other engaged research term such as action research or patient-centered research).
Study methods:	All types of studies (e.g., randomized controlled trials, mixed methods, cross sectional, descriptive, qualitative, case studies, etc.).

Studies will be limited to research conducted with participants residing in the US and USAPI. Studies published between January of 2000 and December of 2017 in peer-reviewed journals will be included in the review. Only those studies that focus solely on Pacific Islanders will be included. Pacific Islander subgroups include (but are not limited to): Chamorro, Chuukese, Maori, Marshallese, Native Hawaiian, Samoan, and Tongan. Studies that include Asian Americans aggregated with Pacific Islanders will not be included. For the purposes of establishing study eligibility, *CBPR* will be defined as an approach to research that seeks to equally involve community stakeholders and academic partners in the research process in a mutually beneficial partnership.⁶ Studies that self-identify as CBPR or a related term will be included.

Information sources

The following biomedical databases will be searched for articles meeting the eligibility criteria and focused on English language items with 2000-2017 publication dates. These databases include: MEDLINE (OVID), MEDLINE In Process & Daily Updates (OVID), Cumulative Index to Nursing and Allied Health Literature-CINAHL Complete (EBSCO), Science Citation Index, and Social Sciences Citation Index (both via Web of Science). The search of All EBM Reviews (OVID) will include: ACP Journal Club, Cochrane Database of

Scoping Reviews, Databases of Abstracts of Reviews of Effects, Cochrane Central Register of Controlled Trials, Cochrane Methodology Register, Health Technology Assessment, and the NHS Economic Evaluation Database. The World Health Organization's Global Health Library will also be searched for international items. Three researchers will review references for inclusion.

Search strategy

The search strategy will be developed by medical librarian co-author SS, in consultation with co-authors PM, BA, RP, and CL. Medical Subject Headings (MeSH) will be used and explored where appropriate to include specific headings under the MeSH terms. To obtain a comprehensive set of results, MeSH terminology will be combined with advanced textword searching techniques including truncation and adjacency searching. MeSH headings chosen to make up the base strategy include: exp Oceanic Ancestry Group/ AND Community-Based Participatory Research/. Controlled vocabulary headings will be combined with extensive strings with synonymous terms for each main concept. Pacific Islander terms include: ("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or maui).mp. or ("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or

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saipanese or "american samoa" or samoa or samoan).mp. Similar synonymous terminology searching will be combined multiple ways to reach the CBPR concept. Controlled vocabulary headings, search strings and the overall strategy will be adapted as needed for other vendor platforms specific to the database used. These adapted strategies and terms may be requested from the corresponding author (PM). The search terms and strategy to be used from MEDLINE (via OVID) are presented in Appendix 1.

Data management

Search results will be exported, stored, and shared among co-authors using RefWorks (version 2.0),²¹ an Internet-based reference management service. Duplicate records will be removed from search results by using RefWorks’ duplicate-check function with manual oversight prior to duplicate removal. De-duplicated records will be exported from RefWorks into a Microsoft Excel 2013 (version 15.0) spreadsheet to facilitate the study selection process.²²

Study selection process

The title and abstract of manuscripts will be reviewed to determine whether the study meets all the eligibility criteria. If the title and abstract of any manuscript do not provide enough information to confirm eligibility, the full article will be reviewed by two researchers to determine if it meets the inclusion criteria. If it is still unclear if the manuscript is eligible, a third reviewer will review the manuscript and a final decision will be made. In the event that multiple publications of a single eligible study are identified, both publications will be included. However, when tabulating quantitative results care will be taken to avoid double-counting single studies.

Data extraction process

Data extraction from each eligible study will be performed by two researchers independently. Then, they will compare the results of the extraction process. Discrepancies in extracted data will be discussed and resolved between the researchers; a third reviewer will be consulted if necessary. If data extraction for an eligible study cannot be completed due to inadequate description of the study in an article's full text, researchers will contact the publication's corresponding author via email (up to three attempts) to acquire the missing information. If there are multiple publications of a single eligible study, data will be extracted from the multiple publications. In these cases, extracted data will be evaluated across publications for any inconsistencies. If inconsistencies are identified, researchers will attempt to resolve inconsistencies through discussion or by contacting the publications' corresponding author via email (up to three attempts). Before data extraction begins, researchers will pilot the extraction spreadsheet on a small sample of eligible studies and adjust the extraction spreadsheet or extraction procedures as necessary.

Data items

The following data will be extracted from each eligible article. (Table 2)

Table 2.

Participant population	<ul style="list-style-type: none"> • Race/ethnicity • Subgroup of Pacific Islander • Geographic location • Sex • Age group
Study design	<ul style="list-style-type: none"> • Randomized controlled trial • Case study • Etc.
Study method(s)	<ul style="list-style-type: none"> • Qualitative • Quantitative • Mixed methods • Etc.
Study setting	<ul style="list-style-type: none"> • Churches

	<ul style="list-style-type: none">• Clinical setting• School systems• Community setting• Etc.
Best Practices	<ul style="list-style-type: none">• Best practices related to CBPR design, implementation setting, individuals involved, and implementation process (e.g. recruitment, data collection, retention, dissemination).
Publication details	<ul style="list-style-type: none">• Authors• Article title• Journal title• Year of publication• Volume number• Issue number• Page numbers• Funding source• Was a community author identified

Because this scoping review’s focus is to assess the coverage and gaps in the literature about CBPR best practices with Pacific Islanders, quality assessment of individual eligible studies will not be a primary focus of the data extraction process.

Data synthesis

Data synthesis will include producing quantitative summaries of extracted data that include frequencies and percentages for many of the extracted data fields. For the Best Practices Field, the researchers, trained in qualitative methods, will begin by coding each segment of data using an inductive coding process to generate a list of emerging best practices. Then researchers will organize emergent codes into a code book that will be used to code each data segment. This process will help organize the data for focused thematic coding and allow the researchers to create salient summaries of best practices.^{84,85} These summaries will be utilized to present the

convergent and divergent themes within the studies. Additionally, these summaries will allow us to identify gaps in the existing literature.

Discussion

The purpose of this scoping review is to identify best practices used when conducting CBPR with Pacific Islanders; it will also extrapolate where the gaps are in the existing literature. This will be the first scoping review on CBPR with Pacific Islanders. The article will expand the available knowledge on CBPR methods which have shown success in reducing health disparities in African American, Hispanic/Latino, and other minority groups.⁷⁴⁻⁸⁰ For this reason, it will be useful to CBPR partnerships with Pacific Islanders that are seeking to address the profound health disparities in the rapidly growing Pacific Islander population. The outcome of this article can serve as a guide for researchers and community members seeking to address health disparities in diverse Pacific Islander communities. For example, those seeking to address a wide variety of health conditions from Hansen's disease to obesity, can use the cumulative best practices in the scoping review to guide their CBPR methods including engagement, recruitment, data collection, retention and dissemination.

Dissemination

To facilitate dissemination, the results of this scoping review will be submitted for publication to a peer-reviewed journal, presented at conferences, and shared with CBPR stakeholders.

Authors' Contributions

PM, BA, RP, CL, KS, and ME designed the protocol, and SS developed the search strategy in consultation with PM, BA, and RP. PM, BA, and RP drafted the protocol, and SS, CL, and KS revised the protocol. All authors approved the current version of the protocol.

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Funding Statement

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Competing Interests

The authors have no competing interests to declare.

For peer review only

References

1. Vaughn LM, Jacquez F, Lindquist-Grantz R, Parsons A, Melink K. Immigrants as Research Partners: A Review of Immigrants in Community-Based Participatory Research (CBPR). *J Immigr Minor Health*. 2016.
2. Townsend C, Dillard A, Hosoda K, et al. Community-based participatory research integrates behavioral and biological research to achieve health equity for Native Hawaiians. In. Vol 13. *International Journal of Environmental Research and Public Health* 2015:1-10.
3. National Institutes of Health. Community-Based Participatory Research Program (CBPR). 2017; <https://www.nimhd.nih.gov/programs/extramural/community-based-participatory.html>.
4. Panapasa S, Jackson J, Caldwell C, et al. Community-Based Participatory Research Approach to Evidence-Based Research: Lessons From the Pacific Islander American Health Study. *Prog Community Health Partnersh*. 2012;6(1):53-58.
5. Israel BA, Coombe CM, Cheezum RR, et al. Community-based participatory research: a capacity-building approach for policy advocacy aimed at eliminating health disparities. *Am J Public Health*. 2010;100(11):2094-2102.
6. Israel BA, Schulz AJ, Parker EA, Becker AB. Review of community-based research: assessing partnership approaches to improve public health. *Annu Rev Public Health*. 1998;19:173-202.
7. Grieco E. The Native Hawaiian and other Pacific Islander population: Census 2000 brief. 2001. 2001; <http://www.census.gov/prod/2001pubs/c2kbr01-14.pdf>. Accessed 09/17/2008.
8. Bureau USC. *2010 Census Shows More than Half of Native Hawaiians and Other Pacific Islanders Report Multiple Races*. 2010.
9. Hixson L, Hepler B, Kim M. The Native Hawaiian and Other Pacific Islander Population: 2010. 2012; <http://www.census.gov/prod/cen2010/briefs/c2010br-12.pdf>.
10. Working Group of Applied Research Center and National Council of Asian Pacific Americans. Best Practices: Researching Asian Americans, Native Hawaiians and Pacific Islanders. <http://ncapaonline.org/BestPracticesAANHPI.pdf>. Accessed September 12, 2013.
11. Ro M, Lee AK. Out of the Shadows: Asian Americans, Native Hawaiians, and Pacific Islanders. *Am J Public Health*. 2010;100(5):776-778.
12. Srinivasan S GT. Toward improved health: Disaggregating Asian American and Native Hawaiian Pacific Islander data. *American Journal of Public Health*. 2000;90:1731-1734.
13. Nguyen A, Chawla N, Noone A, Srinivasan S. Disaggregated Data and Beyond: Future Queries in Cancer Control Research. *Cancer Epidemiol Biomarkers Prev*. 2014;23(11):2266-2272.
14. Ahmad F, Weller C. *Reading Between the Data The Incomplete Story of Asian Americans, Native Hawaiians, and Pacific Islanders*. 2014.
15. Moy K, Sallis J, David K. Health Indicators of Native Hawaiian and Pacific Islanders in the United States. *Journal of Community Health*. 2010;35(1):81-82.
16. Look M, Trask-Batti M, Mau M, Kaholokula J. *Assessment and Priorities for Health & Well-being in Native Hawaiians and other Pacific Peoples*. Honolulu, HI: University of Hawaii;2013.
17. Mau M. Health and Health Care of Native Hawaiian & Other Pacific Islander Older Adults. In: Stanford School of Medicine; 2010:1-38.
18. Center for Disease Control and Prevention. CDC - NHOPI - Native Hawaiian - Other - Pacific Islander - Populations - Racial - Ethnic - Minorities - Minority Health. 2015; <http://www.cdc.gov/minorityhealth/populations/REMP/nhopi.html>. Accessed May, 14, 2015.
19. Asian American's Advancing Justice. *A community of contrasts: Native Hawaiians and Pacific Islanders in the United States*. 2014.

20. Asian & Pacific Islander Health Forum. *Native Hawaiian and Pacific Islander Health Disparities*. 2010.

21. Braun K, Kim B, Ka'opua L, Mokuau N, Browne C. Native Hawaiian and Pacific Islander Elders: What Gerontologists Should Know. *Gerontologist*. 2014.

22. Evaluation IfHMa. GBD Profile: Federated States of Micronesia. 2010; http://www.healthdata.org/sites/default/files/files/country_profiles/GBD/ihme_gbd_country_report_federated_states_of_micronesia.pdf.

23. Panapasa S, Jackson J, Caldwell C, Heeringa S, McNally J, Williams D. *Pacific Islander Health Study Report: Preliminary Findings*. 2012.

24. United Nations Population Fund. Population and Development Profiles: Pacific Island Countries. 2014; http://countryoffice.unfpa.org/pacific/drive/web_140414_UNFPA_PopulationandDevelopment_Profiles-PacificSub-RegionExtendedv1LRv2.pdf.

25. Economic Policy PaSO, Republic of the Marshall Islands, and the SPC Statistics for Development Programme,. *Republic of the Marshall Islands 2011 Census report*. Noumea, New Caledonia 2011. 978-982-00-0564-8.

26. Moy K, Sallis J, Trinidad D, Ice C, McEligot AJ. Health behaviors of native Hawaiian and Pacific Islander adults in California. *Asia Pac J Public Health*. 2012;24(6):961-969.

27. Aitaoto N, Ichiho H. Assessing the Health Care System of Services for Non-Communicable Diseases in the US-affiliated Pacific Islands: A Pacific Regional Perspective. *Hawaii J Med Public Health*. 2013;72(5 Suppl 1):106-114.

28. Palafox N. Health Consequences of the Pacific U.S. Nuclear Weapons Testing Program in the Marshall Islands: Inequity in Protection, Policy, Regulation, Presidents Cancer Panel. *Reviews of Environmental Health*. 2010;1:81-85.

29. Palafox N, Riklon S, Alik W, Hixon A. Health consequences and health systems response to the Pacific U.S. Nuclear Weapons Testing Program. *Pac Health Dialog*. 2007;14(1):170-178.

30. Palafox NY, S. The health predicament of the U.S.-associated Pacific Islands: What role for primary health care? *Asian American Pacific Islander Journal of Health*. 1997;5:49-56.

31. Pobutsky A, Krupitsky D, Yamada S. Micronesian migrant health issues in Hawaii: Part 2: An assessment of health, language and key social determinants of health. *Californian Journal of Health Promotion*. 2009;7:32-55.

32. Yamada S, Pobutsky A. Micronesian Migrant Health Issues in Hawaii: Part 1: Background, Home Island Data, and Clinical Evidence. *Californian Journal of Health Promotion*. 2009;7(2):16-31.

33. Center for Disease Control and Prevention. United States Affiliated Pacific Islands, 2011 - TB. 2011; <http://www.cdc.gov/tb/statistics/reports/2011/pdf/pacificislands.pdf>.

34. Blackwell D, Lucas H, Clarke T. Summary Health Statistics for US Adults: National Health Interview Survey, 2012. In. Vol 10(260). National Center for Health Statistics 2014.

35. Prevention CfDca. Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2011. In. *Vital and Health Statistics* 2012.

36. Schiller J, Lucas J, Ward B, JA P. *Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2010*. National Center for Health Statistics; 2012.

37. Pleis J, Ward B, Lucas J. Summary Health Statistics for US Adults: National Health Interview Survey, 2009. 2010; 10(249): http://www.cdc.gov/nchs/data/series/sr_10/sr10_249.pdf.

38. Pleis J, Ward B. Summary health statistics for U.S. adults: National health interview survey, 2008. National Center for Health Statistics. In. *Vital Health Statistics*. Vol 102 2009.

39. Pleis J, Lucas J. Summary Health Statistics for US Adults: National Health Interview Survey, 2007. *Vital Health Statistics* 2009; 10(240): http://www.cdc.gov/nchs/data/series/sr_10/sr10_240.pdf.

40. Tung W-C. Diabetes among Native Hawaiians and Pacific Islanders. *Home Health Care Management & Practice*. 2012;24(6):309-311.
41. Mau M, Sinclair K, Saito E, Baumhofer K, Kaholokula J. Cardiometabolic health disparities in native Hawaiians and other Pacific Islanders. *Epidemiol Rev*. 2009;31:113-129.
42. Okihiro M, Harrigan R. An overview of obesity and diabetes in the diverse populations of the Pacific. *Ethn Dis*. 2005;15(4 Suppl 5):S5-71-80.
43. Buenconsejo-Lum L, Navasca D, Jeong Y, Wong E, Torris T. *Cancer in the U.S. Affiliated Pacific Islands 2007–2011*. Honolulu, HI: Pacific Regional Central Cancer Registry, Cancer Council of the Pacific Islands and John A. Burns School of Medicine.;2014.
44. US Department of Health and Human Services Office of Minority Health. Profile: Native Hawaiian and Pacific Islanders. 2015; <http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=65>. Accessed June 15, 2015.
45. National Center for Health Statistics. *2011Health, United States, 2011: With Special Feature on Socioeconomic Status and Health*. Hyattsville, MD. 2012.
46. National Center for Health Statistics. *Health, United States, 2013: With Special Feature on Prescription Drugs*. Hyattsville, MD2014.
47. Arias E. *United States life tables, 2001*. . Hyattsville, Maryland: National Center for Health Statistics.2004.
48. Taylor R, Lewis N, Levy S. Societies in transition: mortality patterns in Pacific Island populations. *Int J Epidemiol*. 1989;18(3):634-646.
49. Stephanie Cooke. *In Mortal Hands: A Cautionary History of the Nuclear Age*. Bloomsbury USA; 2010.
50. NJ. P. Health transitions, fast and nasty: exposure to nuclear radiation. *Pacific Health Dialog*. 2002;9(2):275-282.
51. RL. G. Radioactivity and rights: clashes at Bikini Atoll. *American Journal of Public Health*. 2001;91(9):1371-1376.
52. Barker H. *Bravo for the Marshallese: Regaining Control in a Post-Nuclear, the case of Marshallese Post-Colonial World*. 2nd ed. ed: Cengage Learning; 2012.
53. Lessard ET, Miltenberger RP, Cohn SH, Musolino SV, Conard RA. Protracted exposure to fallout: the Rongelap and Utirik experience. *Health Physics*. 1984;46(3):511-527.
54. Robison WL, Bogen KT, Conrado CL. An updated dose assessment for resettlement options at Bikini Atoll--a U.S. nuclear test site. *Health Physics*. 1997;73(1):100-114.
55. Bogen KT, Conrado CL, Robison WL. Uncertainty and variability in updated estimates of potential dose and risk at a U.S. nuclear test site--Bikini Atoll. *Health Physics*. 1997;73(1):115-126.
56. Gilbert ES, Land CE, Simon SL. Health effects from fallout. *Health Physics*. 2002;82(5):726-735.
57. Kroon E, Reddy R, Gunawardane K, et al. Cancer in the Republic of the Marshall Islands. *Pacific Health Dialog*. 2004;11(2):70-77.
58. Division of Cancer Epidemiology and Genetics NCI. Estimation of the baseline number of cancers among Marshallese and the number of cancers attributable to exposure to fallout from nuclear weapons testing conducted in the Marshall Islands. 2004; http://dceg.cancer.gov/RMIdocs/9-28Response_appendix.pdf. Accessed 06/26/2005.
59. Gittelsohn J, Haberle H, Vastine AE, Dyckman W, Palafox NA. Macro- and microlevel processes affect food choice and nutritional status in the republic of the marshall islands. *The Journal Of Nutrition*. 2003;133(1):310S-313S.
60. Martin EJ, Rowland RH. *Castle Series, 1951*. United States Department of Energy;1982. DNA 6035F (1 April 1982).

61. Adams W, Heotis P, Scott W. *Medical Status of Marshallese Accidentally Exposed to 1954 Bravo Fallout Radiation: January 1985 through December 1987*. Upton, NY: Brookhaven National Laboratory; January 1989 1989. BNL-52192 UC-408.

62. Cohn SH, Rinehart RW, Gong JK, et al. *Nature and Extent of Internal Radioactive Contamination of Human Beings, Plants, and Animals Exposed to Fallout*. Bethesda, MD and San Francisco, CA: Naval Medical Research Institute and Naval Radiological Defense Laboratory; March 1954 1955. WT-036.

63. Sondhaus CA, Bond VP. *Physical factors and dosimetry in the Marshall Island radiation exposures*. Ft. Belvoir, VA: Naval Radiological Defense Laboratory; December 1955 1955. WT-939 (December 1955).

64. Wergowske G, & Blanchette, P.L. Health and health care of elders from Native Hawaiian and other Pacific Islander backgrounds. 2001; <http://web.stanford.edu/group/ethnoger/nativehawaiian.html>.

65. McElfish P. University of Arkansas for Medical Sciences-Northwest Focus Groups with Marshallese Community, March 2014. In. Springdale, AR: University of Arkansas for Medical Sciences-Northwest; 2014.

66. McElfish P. UAMS-NW Marshallese Focus Groups. In. Springdale, AR: University of Arkansas for Medical Sciences-Northwest; 2013.

67. McElfish P. University of Arkansas for Medical Sciences-Northwest Focus Groups with Marshallese, December 2013. In. Springdale, AR: University of Arkansas for Medical Sciences-Northwest; 2013.

68. McElfish P. Unpublished summary of interviews with Marshallese Stakeholders from June 2012 through October 2013. In. Springdale, AR and Fayetteville, AR: University of Arkansas for Medical Sciences-Northwest; 2013.

69. McElfish P. Unpublished preliminary planning interviews with local Marshallese and Marshallese healthcare providers from August 2012 through November 2013. In. Springdale, AR and Fayetteville, AR: University of Arkansas for Medical Sciences-Northwest; 2012-2013.

70. Wallerstein N. Power between evaluator and community: Research relationships within New Mexico's healthier communities. *Soc Sci Med*. 1999;49:39-53.

71. Minkler M. Ethical Challenges for the "Outside" Researcher in Community-Based Participatory Research. *Health Education & Behavior*. 2004;31.

72. Wallerstein N, Duran B. Using Community-Based Participatory Research to Address Health Disparities. *Health Promotion Practice*. 2006;7(3):312-323.

73. Minkler M, & Wallerstein, N., (eds.). *Community-Based Participatory Research for Health: From Process to Outcomes*. San Francisco, CA: Jossey-Bass Publishers; 2008.

74. Cacari-Stone L, Wallerstein N, Garcia A, Minkler M. The Promise of Community-Based Participatory Research for Health Equity: A Conceptual Model for Bridging Evidence With Policy. *American Journal of Public Health*. 2014;104(9):1615-1623.

75. Minkler M. Linking science and policy through community-based participatory research to study and address health disparities. *Am J Public Health*. 2010;100 Suppl 1:S81-87.

76. Rhodes SD, Yee LJ, Hergenrather KC. A community-based rapid assessment of HIV behavioural risk disparities within a large sample of gay men in southeastern USA: a comparison of African American, Latino and white men. *AIDS Care*. 2006;18(8):1018-1024.

77. Wallerstein N, Duran B. Community-based participatory research contributions to intervention research: the intersection of science and practice to improve health equity. *Am J Public Health*. 2010;100 Suppl 1:S40-46.

78. Halladay JR, Donahue KE, Hinderliter AL, et al. The Heart Healthy Lenoir project--an intervention to reduce disparities in hypertension control: study protocol. *BMC Health Serv Res*. 2013;13:441.

- 1
2
3 79. Patzer RE, Gander J, Sauls L, et al. The RaDIANT community study protocol: community-based
4 participatory research for reducing disparities in access to kidney transplantation. *BMC Nephrol.*
5 2014;15:171.
6
7 80. Rasmus SM. Indigenizing CBPR: evaluation of a community-based and participatory research
8 process implementation of the Elluam Tungiinun (towards wellness) program in Alaska. *Am J*
9 *Community Psychol.* 2014;54(1-2):170-179.
10 81. Israel BA, Eng E, Schulz AJ, Parker EA. *Methods for Community-Based Participatory Research for*
11 *Health 2nd Edition.* Jossey-Bass2012.
12 82. Moher D, Shamseer L, Clarke M, et al. Preferred reporting items for systematic review and meta-
13 analysis protocols (PRISMA-P) 2015 statement. *Syst Rev.* 2015;4:1.
14 83. Shamseer L, Moher D, Clarke M, et al. Preferred reporting items for systematic review and meta-
15 analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ.* 2015;349:g7647.
16 84. Charmaz K. 'Discovering' chronic illness: using grounded theory. *Soc Sci Med.* 1990;30(11):1161-
17 1172.
18 85. Charmaz K. Teaching Theory Construction With Initial Grounded Theory Tools: A Reflection on
19 Lessons and Learning. *Qual Health Res.* 2015;25(12):1610-1622.
20
21
22
23
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APPENDIX #1

MEDLINE SEARCH STRATEGY

Ovid MEDLINE(R) <1946 to August Week 1 2017>

#	Searches	Results	Type
1	exp Oceanic Ancestry Group/	8871	Advanced
2	("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or mau).ti,ab.	7465	Advanced
3	("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).ti,ab.	14366	Advanced
4	1 or 2 or 3	28011	Advanced
5	exp Community-Based Participatory Research/	3400	Advanced
6	(action adj2 (inquiry or "oriented participatory research" or research or science)).ti,ab.	3657	Advanced
7	cbpr.ti,ab.	740	Advanced
8	((communit* or consumer*) adj2 (based or centered or driven or engaged or involved or partnered or wide) adj1 (research or studies or study)).ti,ab.	4565	Advanced
9	((participatory or "patient-centered" or "patient-centric") adj2 research).ti,ab.	3442	Advanced
10	5 or 6 or 7 or 8 or 9	12560	Advanced
11	4 and 10	292	Advanced
12	exp Oceanic Ancestry Group/	8871	Advanced

13	("pacific islander" or "native hawaiian" or Hawaii or "ni'ihau" or niihau or "kaua'i" or kauai or "o'ahu" or oahu or "moloka'i" or molokai or "lana'i" or lanai or "kaho'olawe" or kahoolawe or maui).mp.	10566	Advanced
14	("austral islands" or australasia or "caroline islands" or carolinian or chamorro or chuuk or chuukese or "cook islands" or "easter island" or fiji or fijian or "futuna island" or guam or guamanian or "i-kiribati" or kiribati or kosrae or kosraean or "mariana islander" or "mariana islands" or "marshall islands" or marshallese or melanesia or melanesian or micronesia or micronesian or "new caledonia" or niue or "ni-vanuatu" or "pacific islander" or "pacific islands" or palau or palauan or "papua new guinea" or "papua new guinean" or "phoenix islands" or "pitcairn islands" or pohnpei or pohnpeian or polynesia or polynesian or "rapa nui" or saipan or saipanese or "american samoa" or samoa or samoan).mp.	20125	Advanced
15	12 or 13 or 14	36468	Advanced
16	exp Community-Based Participatory Research/	3400	Advanced
17	(action adj2 (inquiry or "oriented participatory research" or research or science)).mp.	3852	Advanced
18	cbpr.mp.	761	Advanced
19	((communit* or consumer*) adj2 (based or centered or driven or engaged or involved or partnered or wide) adj1 (research or studies or study)).mp.	4635	Advanced
20	((participatory or "patient-centered" or "patient-centric") adj2 research).mp.	5569	Advanced
21	16 or 17 or 18 or 19 or 20	12931	Advanced
22	15 and 21	326	Advanced
23	limit 22 to yr="2000 - 2017"	304	Advanced

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PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item	Page Addressed
ADMINISTRATIVE INFORMATION			
Title:			
Identification	1a	Identify the report as a protocol of a systematic review	1
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	N/A
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number	N/A
Authors:			
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author	1
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	5
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	N/A
Support:			
Sources	5a	Indicate sources of financial or other support for the review	9
Sponsor	5b	Provide name for the review funder and/or sponsor	N/A
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	N/A
INTRODUCTION			
Rationale	6	Describe the rationale for the review in the context of what is already known	1-3
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	3
METHODS			
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review	3-5
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage	3-5
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be	Appendix A

repeated			
Study records:			
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	6
Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)	6-7
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	6-8
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications	8-9
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	5-7
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	6-8
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised	3-5
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2 , Kendall's τ)	N/A
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)	N/A
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	6-8
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)	N/A
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)	N/A

*From: Shamseer L, Moher D, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. BMJ. 2015;349:g7647.